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Technology delivery: Are we doing all we can for the customer?

Scott Greene

Technology Delivery: Are We Doing All We Can For The Customer

By

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Abstract

The purpose of this qualitative study is to identify key activities for Project Managers surrounding the delivery of new technologies to end-users. The study involved establishing internal focus groups within the Xerox Human Resources organization. Questions were asked seeking customer feedback and perceptions within the realm of technology delivery. The study found that there were five key areas for project managers to focus on when implementing and delivering new technologies: Project Initiation, Communication, End User Training/Support, Project Implementation and Feedback.

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Chapter 1

Introduction

As we strive for increased productivity in the workplace and encourage employees to work smarter, technology is becoming an intregal piece of the puzzle. Implementation and delivery of the new technology is critical to employee productivity. Employee comfort levels with changes in technology can help them be more productive. This is often not the case, however, as technology can become a waste of resources. Are we doing the right things to ensure a successful delivery and implementation to satisfy and delight our internal customers. An example of a poor implementation would be an employee finding a new personal computer on their desk without the benefit of proper training. Knowing their perceptions about the incident and their resulting lack of satisfaction would be valuable information for improving the process and decrease customer frustration. With the proper notification and training prior to delivery, could their perceptions and satisfaction change? Could frustrations be relieved? Would productivity change?

This project will look at different techniques used in delivering new technologies by industry standards and compare them to technologies delivered to the Human Resources department at Xerox.

The Problem

There are significant issues internal customers' faces when new hardware and software is delivered for use. Can an examination and understanding of these issues that occur at delivery and implementation change the satisfaction levels of employees and improve their productivity?

Background

Technology has been integrated in every facet of our lives. During the 20th century, we have seen tremendous changes as no one time in history. With the onset of the Industrial Revolution, machines were designed to do the work of one hundred men. In today's world, change happens at a winged pace. Buying a new personal computer today is a hard decision. Considering the rapid changes in technology, within three months of purchasing a PC it could be considered outdated hardware. To show costs relating to upgrading technology, the oil and gas industry spends approximately $6 billion each year on information technology to keep up with the demands for increased outputs with lower costs.

Change can bring paralyzing fear in people. New equipment or software brings fear to some that feel that the new tools will be replacing them in the workforce. The feeling that they can not keep up with the pace of change is very real. These fears must be handled delicately during the implementation and delivery of the technologies. Listening to the internal customer's concerns regarding implementation and delivery issues can bring about change in their overall satisfaction and subsequently their productivity. The

Standish Group on Cape Cod, MA, estimates that 31% of the computers installed in organizations are either removed or worse, rejected and not utilized. (Pitagorsky, 1997). The Gartner Group in Stamford, CT, estimates that office employees waste 5.1 hours a week waiting for programs to run or for help to arrive. (Pitagorsky, 1997).

This rings true as we deliver and implement new technologies for the Human Resource department in Xerox. The organization is tasked to provide managers and employees with information regarding benefits and human resource policies and procedures. To provide this to 54,000 employees, located all across the United States, is not an easy task. Using tools such as the web, PeopleNet and Voice Response Systems, the HR group can provide customers with critical information for business and personal use. It is the Technology Department's responsibility to completely understand our customers mission and vision when we make recommendations for planning, implementing and delivering new technologies to help them meet their targets.

Purpose

This case study will look at issues and techniques that drive customer satisfaction in the implementation and delivery of technology. The intent of this case study is to look at process reengineering for the Xerox Human Resources organization and their considerations about changes that need to take place when implementing and delivering a new technology based

project. In the long run, these changes should improve customer satisfaction and productivity.

Continuous Improvement for Project Management

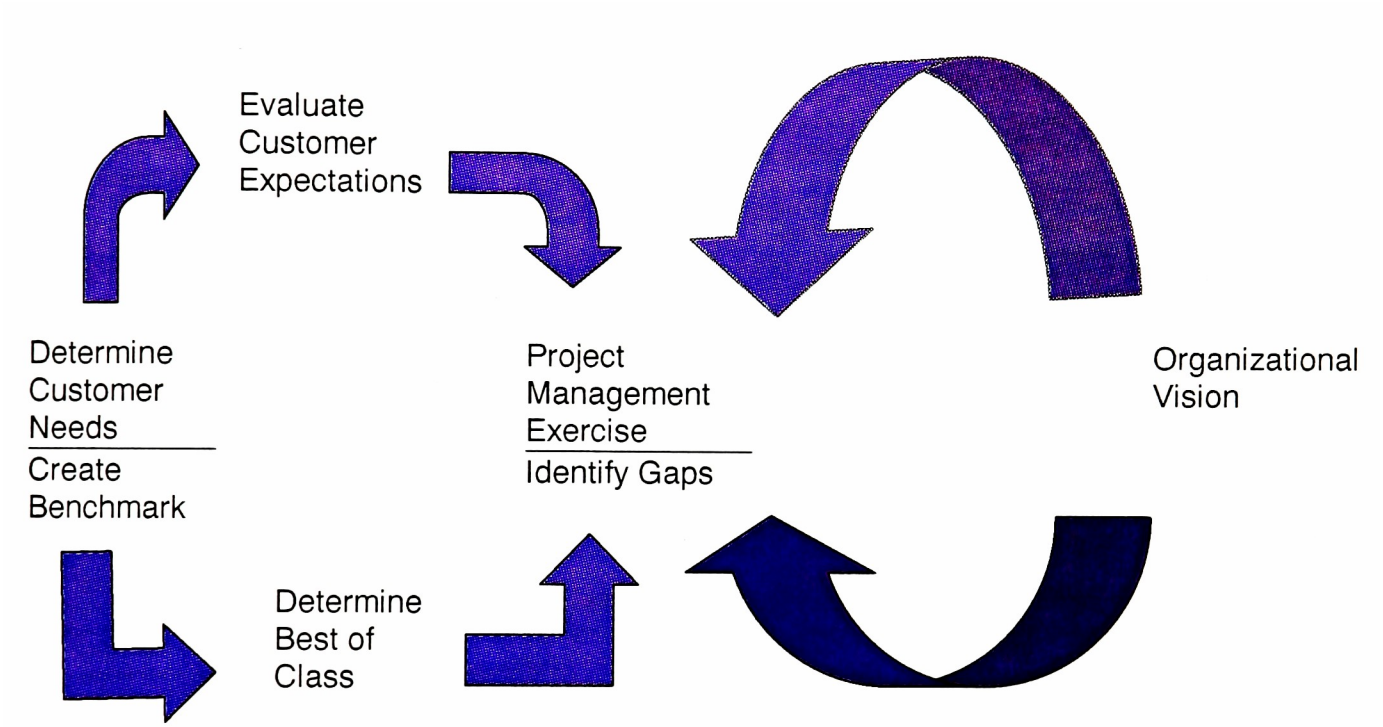


Figure 1

The above graph illustrates the importance for project manager's to understand the organization's vision when developing new technologies. The project manager must fully understand and embrace the vision, to ensure the project is inline with the goals of the organization they are supporting.

Significance

This study will provide Project Managers with key activities that ensure quality within the project scope, surrounding the delivery of new technologies to end-users. This study will help us understand the importance and ultimately design of listening to the customer during all phases of a project to ensure the customer's perception of the new technology and subsequent utilization is a positive one.

Methodology

Qualitative research will be used to analyze customer feedback from internal customer focus groups, regarding customer satisfaction and perceptions within the realm of technology delivery. Focus group members were selected from Xerox's United States Customer Operations Human Resource organization. Their businesses rely heavily on technology to meet targets and deliverables to managers and employees. Select members of the Human Resource department were invited to share their ideas on technology delivery. They will be asked to provide insight on what are the key activities that must transpire when delivering a new technology based project to end users.

Literature Review

The subject areas that were reviewed included customer service principles and policies and Xerox Information Management procedures on project management. The Academy of Marketing Science's Modeling the Determinants of Customer Satisfaction for Business to Business

Professional Services helped illustrate factors that drive customer satisfaction. Another article to be used is the Magic Bullet Theory in IM (Information Management) looks at customer input to be critical in producing a quality and meaningful project.

Study Questions

This study asked focus groups to identify the critical aspects of project planning, delivery and implementation of new technologies, hardware or software, from Xerox internal customers.

What elements of project management are crucial in meeting your requirements?

During the implementation phase for a new technology, what are your expectations for the project team to ensure a seamless delivery?

Identify areas that you want to remain intact or improve upon when a project team is put together to implement a technology solution.

Definition of Terms

End User - Person who uses the project output to deliver result to the organization.

Customer Focus - Focusing in on what delights the customer and makes them want to return for products and services.

Customer Satisfaction - Customer is pleased/delighted with a product or service an organization provides.

Project - A temporary effort to achieve a set of objectives within time and cost constraints.

Project Plan - Key activities and personnel that are listed on action plan document in order to deploy/complete project objectives.

Virtual Center - Call centers located throughout the U. S. working as one center.

Vision – The ability to perceive and lead an organization with keen foresight

Assumptions

Ideological Assumptions: An important assumption of this study is that there is a direct correlation between customer perception and customer satisfaction. Further, it is assumed that it is necessary to prepare a group for the introduction of technology and access the satisfaction levels after the technology has been delivered.

Procedural Assumptions: End users will participate in a customer focus group, held at a Xerox internal site. Several guiding questions will be developed and used to ensure authentic data is received and utilized.

Scope and Limitations

The case study focused on technology delivery to the Human Resources department at Xerox. As such, the study addressed customer feedback and perceptions regarding technology-based projects and their outputs. Feedback from the focus groups was used to develop themes within the scope of project management.

Limitations to the study could be the focus group is limited to Human Resources department in downtown Rochester. Other limitations could include project budget constraints, education level of the end users and training issues.

Procedures

The subjects that were examined was the Human Resource representatives and their managers. Data from the three groups was gathered by using customer focus groups. Conversations focused on the delivery of technology to the Human Resource Centers and their perception of the change as well as their level of customer satisfaction with the project. Guiding questions were asked to seek feedback on their experiences with the delivery and implementation of new technologies. Group members will share their ideas in a free flowing format, discussing areas of improvement as well as activities they want to see continue. The focus groups were tape-recorded and all information will be captured on flip charts for further analysis.

Flow

Chapter one provided the background, scope and methodology for this study and why it is being done. The problem statement was identified and actions to address the problem were detailed within this chapter.

Chapter two outlines the project methodology. The chapter addresses how the focus groups were established and provides information about coding and theming the data from the focus group feedback.

Chapter three analyzes the focus group feedback and talks about the themes developed from the feedback regarding project management.

Chapter four details the conclusions drawn up from the research and provide recommendations for improvements to the process of technology implementation and delivery.

Chapter 2

Project Methodology

Customer focus groups can help identify best practices and areas of improvement when delivering and implementing a new technology to end-users. The intent is to invite select individuals from the different organizations that make up Human Resources at Xerox. Within the United States Customer Operations (USCO) Human Resources there are different areas of the business, which drives the need for the most advanced technology for them to meet their targets and customer satisfaction levels. . One group that will prove to be a great resource for information will be the National Employee Center (NEC), which is one of the technology groups' major customers. The NEC, formally called the Human Resource Center, is a customer call center that provides employees and managers important benefit and policy information that is critical to their employees in making business and personal decisions. The NEC is divided into three locations; Rochester, Chicago and Dallas. It services 54,000 Xerox employees within the Unites States. The NEC has consolidated all Xerox organizational Human Resources into one unit. One task that the technology groups have been chartered with is when looking at new opportunities for the NEC. One goal of the center is the desire to run the three locations like a virtual center. This means that when a customer calls regarding paperwork submitted for a promotion, that a Human Resource Representative from one of the three centers can answer the call and have the access to pull up the customer's request without having to transfer them to the person working on the paperwork.

Working extensively with the Human Resource department, the perception of the focus group will discuss communications as a key area to be addressed when delivering/implementing new technologies. Lack of communication is always a concern during a project. During project post mortems, communication is always an issue. Information is not relayed in a timely manner, if at all, depending on where you sit on the project team. Communication is a two way street, it is the responsibility of all team members to communicate project information. End users must ensure they are open and honest with the team and express their feelings when asked their views.

Another issue that may surface regards training. With so many options for delivering training (i.e. web-based, classroom, CD-ROM), it is a difficult decision to choose the right media that meets everyone's needs. To bring the material to a level that the entire team and end-users comprehends is also a difficult task. Timing is another issue of training. When is the best time to train people, when the product is being launched or prior to the launch? Asking the end users what they would like and what is most effective for them in the area of training is probably the best answer.

Focus Groups

The expectations for the focus group was to foster an atmosphere of open and honest communication between all levels of employees within the Human Resource arena. My plan is to divide the participants into small group of 6 - 8 people to allow everyone a chance to share their ideas. My role in the sessions was that of a scribe and to tape record the groups to ensure their feedback is taken down word for word, thus ensuring the integrity of the conversation.

An important element in developing a thesis is the data gathering. As part of my thesis, focus groups will be incorporated to gather input for my research. Eight one-hour focus groups were scheduled to include six to eight participants. The focus groups were held on a Xerox site close to each group's work place but far enough away to avoid any interruptions. The attendees were all USCO Human Resource employees.

Within Xerox there are many classifications of employees. Clerical and support personnel are considered non-exempt and paid a straight salary but entitled to overtime payments. Supervisors and Project Managers are classified as exempts and paid only a straight salary and not paid for overtime hours. The final classification is called Confidential with includes high level managers and vice-presidents. These individuals are highly paid and directly responsible for managing major portions of the business. The reason that I went into such detail regarding the grade bands was because it was important to balance the focus group membership to encourage participants to feel comfortable in providing open and honest feedback. If the room was filled with mostly confidential level employees and a few non-exempts that situation might intimidate the lower level employees from fully participating in the discussion.

During the focus group session, it was important to ensure that the participants were comfortable and understood the objectives for scheduling the sessions. Refreshments were provided and the atmosphere very relaxed. Once the sessions got rolling, a review of the objectives was accomplished. The objectives were strategically placed our topic of discussion on the wall to ensure

the participants had a visual reminder of the topic at hand. The sessions were tape recorded to ensure the accuracy and authenticity was maintained. Guiding questions were asked such as:

- What elements of project management are crucial in meeting your requirements? Explain?
- During the implementation phase for a new technology, what are your expectations for the project team to ensure a seamless delivery?
- Identify areas of that you want to remain intact or improve upon when a project team is put together to implement a technology solution.

Using flip charts, the scribe noted each idea/recommendation from the participants, ensuring the information was captured verbatim. Once the session got moving, it seemed like the group developed their own themes that were important to them. Some groups were interested in better communication; others felt strongly about training.

The groups were allowed to build upon other's ideas or clarify when necessary to ensure everyone's understanding. The flip chart sheets were visible at all times to promote new ideas or come back to one at a later time.

In developing codes and themes from the focus group input, looking at commonality of ideas and grouping them together. After this, key themes were identified.

Chapter 3

Coding and Theming

In chapter 3, the focus will be on the process used to gather information for the thesis. Coding and theming the comments helped develop specific topics that are important elements in implementing and delivering technology. Each theme will be discussed as to its importance to the overall process.

The next task at hand was to develop a coding scheme and themes from the focus group input. The difficulty with this task was that many of the input items crossed over into other themes, making it hard to choose exactly where they belonged. After many revisions, five definitive themes were identified from the data collected. They are as follows:

- Project Initiation
- Communication
- End User Training and Support
- Project Implementation
- Feedback

From the focus group sessions, these themes were deemed to be very important in a successful implementation and delivery of technology. To get further insight to what drives customer satisfaction when planning, implementing, and delivering technology, a select few from the focus groups were invited to rank the top five input items under each theme by importance.

Project Implementation

The first theme identified was Project Initiation. This is the most critical part of any project. Getting the team off to a good start and ensuring everyone understands the objectives and outputs of the project team is crucial. In (Pitagorsky, 1997), *How to Manage Projects*, he states " Project management is really all about flexibility within structure. It is the formal application of principles and techniques to the planning and control of project work. Referring to it as formal means putting plans, decisions, objectives, requirements definitions, change requests, etc., in writing -- clearly defining roles and responsibility to promote accountability and following a pre-established repeatable process". To help stimulate creativity there must be some flexibility to balance the formality. If the rules are too rigid, there won't be enough space for the adaptation that the performers need to succeed. If the rules are too loose, there is inefficiency.

Table 1.

Project Initiation
Develop a project plan
Ensure everyone knows the ground rules for being a team member and communicate the objectives of the team
Identify roles and responsibilities
Clear roles
Product should be user friendly
Seek user input in design of technology
Technical supplier must understand problem
Involve the end user at the start up of the project
Celebrate small wins when project team completes project milestones
Project lead must keep lines of communication open with the customer and project team to ensure everyone is on the same page during the project and its subsequent

rollout to the customer
Reliability and accountability are important
Project Manager & project team should be customer oriented
Technology must increase productivity and be easy to use
Test system well prior to release
Ensure team members have people skills
Technical staff should be able to speak in laymen's terms
Understand hardware/software of customer's to ensure it supports new technology
Understand the range of user group that the technology will be designed for
Do it right the first time
Ensure customer understands limitations
Do not implement before product is mature/complete
Invite the customer to be apart of the team
Anticipate your customer's needs
At project startup, review lessons learned from previous projects to ensure history does not repeat itself

Another important aspect of project management is the ability to say "no" or "not now" to unreasonable demands from the customer that will impact the project success. There must be an end point in capturing customer requirements. Allowing the customer to continually add requirements throughout the project only blurs the project team vision of their deliverable.

While companies regard projects or initiatives as a viable means to improve their business, most have an incomplete understanding of the changes involved in implementing projects and what it takes to successfully manage them.

"Organizations should complete business process reengineering before developing supporting systems unless their processes will be dictated by the software functionality". (Pardu, 1996) Reengineering is a powerful tool that can be used to achieve tremendous improvements in service to customers. The new processes that emerge are often so simple and direct that they seem like common sense. Reengineering is not possible without unwavering senior management support.

"Without strong senior management support, it will not be possible to draw the top quality people, and other resources, necessary for success. Without strong senior management support, sacred cows will remain untouchable. Without strong senior management support, overcoming resistance to the changes inherent in reengineering -- particularly cultural-- will be impossible." (Pardu, 1996)

The number one item ranked from the focus group feedback sessions was to seek user input in the design of new technology. To ensure the project goals match customer requirements, allow the end user provide the project teams with their insights and experience on how they envision the new technology to work. Giving the user a chance to share their thoughts and expectations will be beneficial to the user community as well as the project team. If the end user feels that they are making a contribution to the project and have a clear understanding of how the new technology will effect them, this should help alleviate their fears of being displaced by the new technology.

They may also be fearful of not understanding how to use the new technology. The project team will benefit by getting a full understanding of the problem they are expected to tackle.

When communicating with the end users, the project manager should keep in mind that the end users might not understand all the technical terms used in relaying critical information regarding the project. When talking to end users they should select project representatives that can communicate project goals and technicalities but have the ability to translate them in laymen's terms. This will help the end users understand what is being communicated to them and divert any frustration in the process.

Another item from the focus group was that the technology delivered increases productivity and is easy to use. It is important to the end users to know the tool increases their productivity and that it has captured their customer requirements. The new technology most importantly must be easy to use. If is not it will be deemed a failure and not used. If the user community finds the technology difficult to maneuver then they usually will go back to doing things the way they used to because it is easier and familiar to them.

As part of project initiation a detailed project plan should be drafted. Through planning we ensure that results are in keeping with expectations, and that work efforts are efficiently and effectively performed. The following items should be defined in a project plan:

* objectives;
* a description of the product and its acceptance criteria;

* a detailed task list with descriptions of each task, including a description of the concrete outcome of the task, dependencies among the tasks, resource requirements and effort, and duration estimates;
* a schedule;
* a budget;
* role and responsibility assignments; and,
* standards and procedures for project planning, control and performance.

"For the most part, a successful project meets its objectives within time and budget constraints, while fulfilling the needs of the stakeholders. Project sponsors and users should be satisfied that project results add value. A project may be considered successful if it is canceled when it becomes clear that it will not add value." (Pitagorsky, 1997, p. 4)

A project plan is like a road map for the project team, end users and management. The plan should list all the objectives for the team. The objectives should be measurable, linked to other strategic initiatives, prioritized with respect to one another. They should be clearly understood by the project stakeholders to ensure everyone is working toward the same goals.

Communication

Communication was another theme that was developed from the focus group discussions. It was very clear from the participants that communications throughout the project cycle was crucial to its success. Development of a communication method that would direct information from the project leaders to the management group and visa versa is critical. Communication can come in many forms. Weekly status reports and team meetings accomplish this goal. Conference calls are effective if all parties can not be at one site. This allows off site participants to communicate their progress or identified problems that need to be addressed.

Table 2.

Communication
Would like to know what to expect from the project. What will be the outcome?
Preview of software/hardware
Point of contact to help with problems/questions
Timely and accurate communication

Full description of change and how it will affect the user community
Understand the depth of knowledge required to use the new technology
Be consistent when providing communication to end users
Communicate the project timeline
Ensure everyone is on the same platform
Ensure end users understand how the new technology will help them in their current capacity
Keep them abreast of the significant mileposts of the project
Ask the customer the right questions
Give prior notice when seeking input, gives them a chance to collect their thoughts

"By developing strong communication methodologies the management team can keep abreast of the status of the project, thereby preventing such problems as scope creep. Scope creep is a situation that arises when a project grows beyond it original purpose." (Imonti, Cameron, Treulich, 1997). When a project team loses its scope, it is very hard to try to put the team back on track. Keeping everyone focused on the project objectives is an important part of the project manager's role. Most projects require a progress status report in order to maintain focus on the overall critical path. It enables project managers to identify and address issues, which may derail or diminish the success of the project. Organizations should also develop ways to resolve issues, which may emerge during the course of the project in order to keep the project moving.

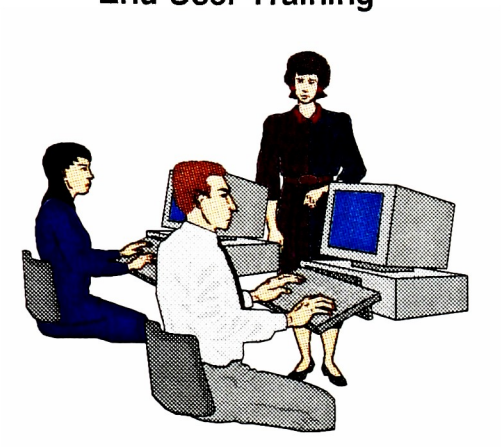
The item rated number one by the focus groups was timely and accurate communication. Project team members and end users expect information to be shared with them immediately when it becomes available. Good or bad, they want to be made aware of elements that effect the project. If the news is good, sharing it will bring a sense of accomplishment to the project team. Celebrating the small wins during the project is a way project managers can bring excitement to the completion of one phase of the project and gain momentum for the next hurdle that the team faces. Sharing bad news is another part of the project managers role to ensure everyone knows what is going on and what will need to happen to get past hurdle and not stopping the project dead in it's tracks. The project manager must build trust with the project team and sponsors. By delivering timely and accurate information to those effected and rallying the players to work through the issues, trust will not be an issue for the project manager.

> "Many organizations make the mistake of communicating about the project in the form of generalized messages, which are cascaded down through the organization. While these broad brush communications form a useful function in raising awareness, it does not take full advantage of using communications as an effective tool to advance the project, particularly for multiple site projects. Project communications should be designed with milestones in mind and should be based on five key objectives: to raise awareness, to solicit input, to obtain acceptance and understanding of the changes involved, to state direction and to report project status." (Larson, 1997)

Within the project team, a point of contact should be established to help end users with problems or questions concerning the project or the new technology that is being delivered. This person or persons should be able to communicate effectively with the end user and bringing their concerns back to the project team for their input. When a point of contact is established in the beginning of the project, the users will feel comfortable discussing their ideas and input with the person. The point of contact can help alleviate any fears or concerns that the end users have making the technology delivery easier to accept when the time comes.

Keeping the project team, management and end-users abreast of significant mileposts of the project is also the responsibility of the project manager. Sharing information is important to the project. When significant mileposts have been completed, the project plan should be updated reflecting the completion and communication should be distributed to all involved. As stated earlier, this is a time when the project manager can build enthusiasm for the project by celebrating the small wins. During the project, the team goes through many emotional ups and downs. When a milepost has been reached, it is a good time to celebrate getting to this point but it is also good to reflect back on how the team got there and if there are any areas of opportunity to do it better the next time. Communications throughout the project life is important to its ultimate success.

End User Training



The third theme was end user training. This was a hot button for many of the focus group participants. They felt that in many projects the training documentation was not adequately prepared. Participant's related experiences of finding a new personal computer on their desk with no information provided on how to log on. It was very evident how frustrating it can be not having the proper training when a new application or hardware is delivered from a project team. Training the end users is one of the most important aspects of any technology-based project. "Training should be one of the first steps of any systems reengineering or client-server migration project. Bringing information systems employees up to speed on new technologies is essential." (Kolbasuk, 1996). Unfortunately, it is also one aspect that is most frequently overlooked. Budget and time constraints on technology based projects tends to eat away at training requirements. If the project is going over the planned budget, a decision may be made to implement a less expensive form of training that may not meet the needs of the end users. Sending a trainee to a three to five day instructor-led class typically costs between $1,000 to $1,500 per user. Within Monroe County, Xerox tends to use facilities such as Ziff-Davis Education to deliver technical

training to employees. Electronic-based courseware costs around $1,200 to $1,500 per trainee per class. However, this usually includes a site license, so the software is reusable.

Table 3.

End User Training/Support
Ensure help desk personnel are properly trained to help with problems/questions. It is frustrating getting incorrect answers or just getting the run around trying to find the right person to answer the inquiry.
Ensure the user has appropriate time to learn the new system
Understand the level of comfort of users prior to developing training
Good support materials/training
Keep terminology consistent in the user manual and system configuration
Develop step by step training guide so that once the training is complete the user would have a reference document at their finger tips
Hands on training
Trainer must understand groups work process and how the new technology affects them
Effective trainers
Onsite trainer made available to group when first working with the new technology

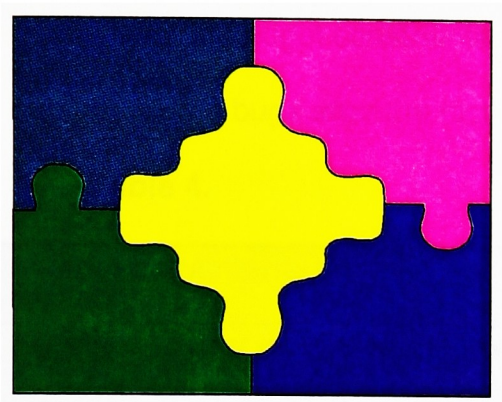
'There have never been more options for technical training. They include in-house and off-site classrooms, on-line multimedia, video and self-directed text-based

courses. Although traditional classroom training is still preferred by most corporate students, more are choosing new multimedia and on-line courseware - much of which can be customized. That makes it easier for information technology professionals to get the training that best meets their needs and budgets." (Kolbasuk, 1996). The item that was most important in the focus groups was to ensure that the people responsible in developing the training for the new tools was that they fully understand the level of comfort of the end users prior to developing the training. The participants' felt that many times during training, the person(s) delivering the training did not understand the needs of the group and that not everyone in the group was on the same level of understanding and comfort with new technology. Tenured employees sometime find the new tools overwhelming whereas more recently hired employees with technical or business degrees can not wait to get their hands on the new tools. The participants also discussed the need for effective trainers, who clearly are the subject matter experts on the topic they are delivering. Class participants must feel that the person leading the training fully understands the product and can communicate effectively.

The focus group participants also stressed the need for step by step training manuals so that once the training is complete; the user would have a reference document at their fingertips. An another important item was to have a help desk for the new technology where they can call for assistance. It has been shown that for every hour of training, three hours of help desk calls are saved. The help desk personnel should be properly trained to help with problems/questions. It is frustrating getting incorrect answers or just getting the run around trying to find the right person to

answer the inquiry. Ineffective training can cause the end user to reject the new technology. Doing it right the first time can save time, money and a lot of frustration.

Project Implementation



Project implementation was another theme that can from the focus group discussions. This is the point of the project where all of the pieces come together. Development and testing are the classical tasks associated with application and implementation. During this phase, the design specifications are developed into executable code and tested for compliance to the specifications. Solution testing encompasses testing all aspects of the business solution prior to final implementation. A thorough system test is necessary to help ensure a quality and consistent system is delivered to the end user. Project team members and end users help ensure the end product complies with the customer requirements and helps facilitate the learning process should perform system testing. The focus group's number one priority was to have the new system tested thoroughly prior to release. They also stated "do not implement before product is mature/complete". (Focus Group, 11/1997) To deliver a technology based project before it has been through compliance and functionality testing is perceived negatively by customers. They feel as though the project team

has failed to meet their requirements and that the timeline for delivery will be in jeopardy. It is the responsibility of the project manager to schedule the appropriate time in the project for system testing. When projects are in distress of meeting deadlines and budget constraints, the decision, at times, is made to deliver what they can and fix the bugs after the fact.

Table 4.

Project Implementation
Ensure end user understands how the new technology will help them in their current capacity
Keep them abreast of the significant mileposts of the project
Project lead must keep the lines of communication open with the customer and project team to ensure everyone is on the same page during the project and its subsequent rollout to the customer.
Test system well prior to release
Do not implement before product is mature/complete

Communication is critical during the implementation phase of a project. Lack of communication between team members and communication to managers and end user can bring a project to its knees. Team members must work as one and understand the critical points of delivery and what is expected of them to complete the puzzle. Keeping managers and end users abreast of significant milestones and problems helps them understand the complexities of the technology being delivered. The managers and end users may be in a position to help work through product delivery

problems and break down barriers that stand in the way of meeting the deadline. The focus groups felt that it was within the project leads role to keep the lines of communication open with the customer and project team to ensure everyone is on the same page during the project and its subsequent rollout to the customer.

Rigorous planning and team development is critical to the success of the project. If planning is done adequately, teams will be able to respond proactively rather than reactively to problems, which emerge after the project is underway. A detailed project plan that has been approved by management and team members is a useful tool in preparing for delivery and implementation of a project. As stated earlier, it should detail all steps that support the project delivery and checked off once completed to avoid duplication of efforts. "Planning is performed throughout the life of a project. Iterative plan refinement uses the information that results from an increasing detailed description of the project and from project control. As assumptions are proven by actual experience, confidence in the plan's accuracy increases. As assumptions are proven to be erroneous, the need for replanning is identified". (Pitagorsky, 1997).

Feedback

The final theme is end user feedback. The information provided by the recipients of new technology based products provides insights to what they perceived to go right with the project and also areas where improvement is needed. Feedback can be delivered many different ways. As part of the project plan, a post mortem is scheduled with the project team and management to talk about the project successes and areas of improvement. This helps the project team to debrief and talk about experiences and activities that they would like to recommend for future projects. This is a good learning experience for everyone involved. To take away best practices is a good example of continuous improvement. Learning from mistakes made is one of the best ways to learn and drive innovation in a project environment. No project is done perfectly but if we learn from our mistakes, future project teams and customer will benefit. The focus groups brought up the point that at project startup, the team should review lessons learned from previous projects to ensure history does not repeat itself.

Table 5.

Feedback
At project startup, review lessons learned from previous projects to ensure history does not repeat itself
Provide multiple options for customers to provide feedback regarding the project
Very important to listen to the customer and ensure their requirements are understood
Follow-through with the customer, seek input and ideas to improve product and delivery
Phone user when seeking feedback
Give user prior notice when seeking input, gives them a chance to collect their thoughts
Timely feedback

Another idea brought up was to provide the end users with multiple options to give feedback regarding the project. A customer survey via phone or mail (hardcopy or email) to the end user after the project implementation is a good way to check the pulse of the customer in regards to the project and its deliverable. The project team should ensure that the survey is delivered in a timely fashion inorder to capture true feelings soon after implementation. Another venue for receiving feedback is establishing customer focus groups. Focus groups are informative because someone may throw out an idea and it can generate other thoughts that the group can build upon. Another piece of advice from my focus group was to give prior notice when seeking input, giving them a chance to collect their thoughts is helpful.

Many great and innovative ideas and deliverables come from project teams. Sometimes these deliverables are not perceived positively by the end users. Lack of communication, poor training and incomplete project planning can contribute to the lack of customer satisfaction. The project manager has a lot on his/her shoulders when pulling a project team together to deliver and implement a new technology. Helping the customer envision how the new technology will help improve their current processes. Project management is a lot like planning a wedding. With the right coordination it turns out to be a beautiful event. If the project manager misses some details the event (project) is compromised.

Chapter 4

Conclusions and Recommendations

From the feedback received from the focus groups and experiences as a project manager, the one theme that always stands out as the determinator for the success of a project is COMMUNICATION. Without it, the team will have no sense of direction, the customer will not envision how the new tool will be of help and management will not be able to provide their support in breaking down barriers. This is a key objective of every project manager, no matter what type of project being implemented, is to keep the lines of communication open for all involved. Without it the project will surely fail. A recommendation for the project team is to establish a communication vehicle for the team, such as establishing a distribution list for email and add the entire team to it. An agreement of all team participants that all communication outside of project meetings is distributed via email. This way everyone is copied in and minutes from the project team meeting should be sent via email to include those who could not attend. Also a shared work space on a file server helps keep all material relating to the project in one receptacle, where team members can retrieve them.

Project implementation is the best place to set ground rules and expectations for the team. Identifying roles and responsibilities helps everyone know what is expected of them. The focus groups stated that a well-written project plan, capturing all the details, would help the team keep on track. A project manager should regard the plan as their bible and review activities at every meeting. This helps everyone understand what is expected of him or her and points out key dates when activities need to be completed. Another idea for the project manager is to celebrate the small wins. This

means that when key initiatives or milestones are complete, celebrate with the team. This brings the team members together to commemorate the passing of a project milestone and gear up for the next phase of the project. This helps the project manager keep the team on track and helps them look forward to the next milestone.

Another good idea from the focus groups was to review lessons learned from previous project to ensure history does not repeat itself. This touches on two of the themes, Project Initiation and Feedback. Setting up post mortems after a project has been implemented is helpful in many ways. First, it helps the team communicate what they did right. Everyone likes to hear what went well during the project. This information should be captured and used during the next project implementation. Bringing up things that could have been done better is also good for the team. This helps them identify areas that need to be improved and brings them together to make the improvements, a true team. Using the lessons learned from previous projects only makes the current project better from the start.

End user training was another theme that project managers need to keep in mind when it comes time to deploy the technology initiative. Asking the customer how they would like to be trained is the best approach. Talking with the end user only helps build trust in you and the project deliverable. They know best how they like to learn. With so many options in the ways we can communicate training, it is best to get their requirements. If cost is an issue, as it is in many projects, the project team may need to be creative. Some teams use train the trainer as a way to deliver training. Select someone from the end user community and provide them with comprehensive training. Then give them the responsibility to train the rest of the organization. This builds

confidence in the new trainer, providing them with new responsibilities. This will also help reduce any resistance from other team members because they will think, "if Sam can learn it so can I".

The last theme is Project Implementation. This were the pieces of the puzzle all come together. If the foundation is not properly laid then the whole thing is coming down. One message the focus groups mentioned was to "test the system well". If the system is not properly tested and the end users see the bugs in the system, they will then lose confidence. The project manager should include the proper time to test the system against requirements into the project plan. If the project is pressured for time this is not the place to slack off. End users become easily frustrated with a new technology if it is not functioning properly. Communication is also important here, letting the project team and user community know if there are problems in meeting commitments for delivery.

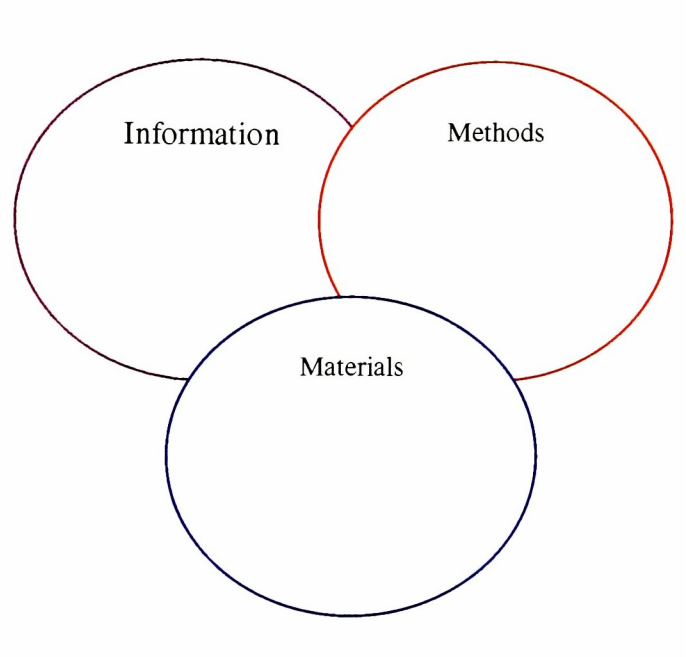
As shown throughout this study, communication is the key to providing a quality project delivery and implementation for new technologies. Within all the themes, Project Initiation, Communication, End User Training/Support, Project Implementation and Feedback, the need for transmission of information to all team members is prevalent. This can be accomplished in many ways but it is not always done well. It is the job of a project manager to ensure all components of a project are complete and accurate. Leading a team of technical and non-technical individuals through a project initiative is a difficult task. A project manager wears many hats within the scope of a project and they rely on many individuals to make the project vision a reality.

Factors in the Successful Use of Technology

Competitive
Pressure for Use

Leadership
- vision
- commitment
- patience
- communication
- long term goals

Forms of Technology



Perceived benefits and incentives vs. costs.

Employee
- Training
- Acceptance

Customer
- Education
- Acceptance

Fit with Service Concept
- Cost
- Quality
- Other results sought

Relationships between forms of technology and factors in their successful use.

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